

IN THE DRAWINGS

The attached Replacement Sheet 3/6 of drawings includes changes to FIG. 3. This sheet 3/6, which includes FIG. 3, replaces the original sheet 3/6 including FIG. 3. In FIG. 3, the lead line has been amended to indicate the rotation point 304.

The attached Replacement Sheet 4/6 of drawings includes changes to FIG. 4. This sheet 4/6, which includes FIG. 4, replaces the original sheet 4/6 including FIG. 4. In FIG. 4, the lead line has been amended to properly identify the trunnion 405.

Attachments: Replacement Sheet 3/6 of drawings
Replacement Sheet 4/6 of drawings

REMARKS

Applicants appreciate the thorough examination of the application that is reflected in the Office Action dated March 30, 2006.

In the March 30, 2006 Office Action, claims 1-17 were rejected. This Response amends claims 7-8, 10, 13, and 15-17. After entry of the foregoing amendments, claims 1-17 (17 total claims; 7 independent claims) remain pending in the application. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

Amendments to the Drawings

FIG. 3 on Replacement Sheet 3/6 of the drawings amends the lead line to correctly identify the rotation point 304.

FIG. 4 on Replacement Sheet 4/6 of the drawings shows a corrected lead line for indicating the trunnion 405.

Claim Objections

The Office objects to claims 5 and 16 because it is allegedly unclear whether they are claiming a second chock assembly or an additional structure of a first chock assembly. Applicants respectfully disagree and submit that claims 5 and 6 are neither indefinite nor unclear. Applicant has amended claims 5 and 16 to correct matters of form, and these amendments are not made in response to this objection.

Claim 5 depends indirectly from claim 1 which recites "a chock assembly." Claim 5 recites that the bearing assembly comprises a first bearing assembly, and that the cradle assembly comprises a first cradle assembly. Claim 5 then recites that "the chock assembly further comprises: a second bearing assembly; and a second cradle assembly coupled to the chock and having a second trunnion configured to interface with the second bearing assembly. As such, the "second bearing assembly," and the "second cradle assembly," are additional structures of the "chock assembly." Claim 5 (nor any of the other claims) reference "a second

chock assembly.” For at least the foregoing reasons, Applicants submit that the objection to claim 5 should be withdrawn.

Applicants also submit that there is nothing indefinite about claim 16. Claim 16 recites “a chock assembly comprising a chock, a trolley, a pair of bearing assemblies rotatably coupling the chock to the trolley, and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein the chock is configured to accept the object and to pivot about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis.” There is no reference in claim 16 to “a second chock assembly,” as indicated in the Examiner’s objection. For at least the foregoing reasons, Applicants submit that the objection to claim 16 should be withdrawn.

Claim Rejections Under 35 U.S.C. §102

Claims 13-14 and 17 are rejected under 35 U.S.C. §102(b) as being anticipated by Williams, USPN 3,067,884 (hereinafter “Williams”). Applicants respectfully traverse these rejections for at least the following reasons.

Claim 13 relates to a chock assembly for supporting a rocket engine on a transport having a longitudinal axis. Claim 13 recites:

- a trolley portion configured to mate with the transport and to interact with the transport to move along the longitudinal axis of the transport during elevation of the rocket engine;
- a chock having a curved portion configured to receive the rocket engine; and
- a hinge portion having a bearing assembly configured to pivotably couple the chock to the trolley portion such that the chock rotates about a pivot point on the trolley portion about an axis that is: substantially on a mid-plane of the trolley portion, the mid-plane being substantially perpendicular to the longitudinal axis, and substantially perpendicular to the longitudinal axis of the rocket engine as one end of the rocket engine is elevated to a position that is substantially perpendicular to the longitudinal axis.

Claim 17 relates to a chock assembly for supporting an object on a transport having a longitudinal axis. Claim 17 recites:

a trolley portion configured to mate with a the transport and to interact with the transport to move laterally along the longitudinal axis;
a chock having a support portion configured to receive the object; and
a hinge portion having a bearing assembly configured to pivotably couple the chock to the trolley portion such that the chock rotates about a pivot point on the trolley portion about an axis that is:
substantially on a mid-plane of the trolley portion, the mid-plane being substantially perpendicular to the longitudinal axis, and
substantially perpendicular to the longitudinal axis as one end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis.

Applicants submit that Williams does not teach all of the limitations of independent claims 13 and 17. For example, Applicants submit that the Williams reference fails to disclose “that the chock rotates about a pivot point on the trolley portion about an axis that is: substantially on a mid-plane of the trolley portion, the mid-plane being substantially perpendicular to the longitudinal axis, and substantially perpendicular to the longitudinal axis as one end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 17. Williams teaches an “ordnance handling vehicle for transporting and supporting missile sections or components.” See Williams, C1/L15-17. The missile holding feature includes an “adapter 81, compris[ing] a substantially U-shaped member 82 in the form of a relatively narrow band having flanges 83 extending outwardly therefrom in registration with complementary flanges 84 formed on a cap 85 and secured together by bolts or the like 86.” See Williams, C4/L32-36. “The adapte[r] 81 is movably supported between the arms 79.” See Williams, C4/L44-45. The adapter 81 in Williams, however, is not configured to rotate about an axis located substantially on a mid-plane of the vehicle, the mid-plane being substantially perpendicular to the longitudinal axis. Rather, as shown in FIGS. 2 and 4 of Williams, Williams only teaches pivoting about an axis a distance away from the vehicle’s mid-plane because of the length of the cantilevered arms 76 and 79 supporting the missile.

For at least the above reasons, Williams does not disclose each and every element of independent claims 13 and 17, and therefore does not anticipate claims 13 and 17. For at least

the same reasons, Williams does not anticipate the invention of claim 14, which depends from claim 13.

Although claim 8 was not rejected based on Williams, Applicants submit that claim 8 is also patentable over Williams for at least the same reasons.

Accordingly, for at least the reasons stated above, Applicants request the withdrawal of the §102 rejection of claims 13-14 and 17.

Claim Rejections Under 35 U.S.C. §103

Claims 1-12 and 15-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ellinthorpe, USPN 5,924,648 (hereinafter "Ellinthorpe"), in view of Cooper, USPN 3,970,295 (hereinafter "Cooper"). Applicants respectfully traverse these rejections for at least the following reasons.

Claim 15 relates to an object transport. Claim 15 recites:

- a trailer having a longitudinal axis;
- a tail support member coupled to the trailer and having a notch configured to receive a pin attached near a first end of an object; and
- a chock assembly comprising a chock and a trolley, wherein the chock is configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

Applicants respectfully submit that the cited references fail to teach or suggest "a tail support member coupled to the trailer and having a notch configured to receive a pin attached near a first end of an object," as recited in claim 15.

Ellinthorpe teaches a "system for rapidly and readily upending/reclining an extraterrestrial vehicle for assembly, transport, storage and/or launching purposes." See Ellinthorpe, C1/L67-C2/L2. More specifically, Ellinthorpe teaches a "bridge assembly ... of an open frame construction and includ[ing] cradle means to matingly receive an extraterrestrial vehicle" and "one or more straps ... thereby restricting movement of the extraterrestrial vehicle relative to the bridge assembly during upending/reclining procedures." See Ellinthorpe, C3/L3-17. However, as shown in FIG. 3B of Ellinthorpe, the bridge assembly 40 in Ellinthorpe does

not include "a notch configured to receive a pin attached near a first end of an object," as recited in claim 15.

Cooper teaches a "pipe fitting locator ... use[d] in supporting a perpendicular branch pipe fitting so that the fitting can be accurately positioned for welding to the side of a longitudinally extending main pipe." See Cooper C2/L49-53. The pipe fitting locator includes a "rail-mounted truck." See Cooper C2/L58. However, as shown in FIG. 1 of the Cooper reference, the pipe fitting locator 10 does not include "a tail support member coupled to the trailer and having a notch configured to receive a pin attached near a first end of an object," as recited in claim 15. The pipe fitting locator does not have a tail support member. The branch pipe 11 to be welded is "mounted to the mounting plate 20 as by temporary fasteners 86," as shown in FIG. 2 of Cooper, not by a notch/pin structure as recited in claim 15. See Cooper, C5/L32-34.

For at least this reason Applicants submit that the rejection of claim 15 should be withdrawn.

Applicants respectfully submit that the cited references also fail to teach or suggest "a chock assembly comprising a chock and a trolley, wherein the chock is configured to accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis," as recited in claim 15.

As shown in FIGS. 2A-B of the Ellinthorpe reference, the bridge assembly 40 does not include "a chock assembly comprising a chock and a trolley, wherein the chock is configured to accept an object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis," as recited in claim 15. FIGS. 2A-B show a cradle member 44 to be integral to the frame of bridge assembly 40, not configured to be rotatable about a trolley. In fact, Ellinthorpe does not teach or suggest a cradle member 44 combined with a trolley to comprise a chock assembly, as recited in claim 15.

As shown in FIG. 2 of the Cooper reference, the pipe fitting locator is not configured to "accept the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis," as recited in claim 15. The

rail-mounted truck does not “accept” the main pipe, but rather moves beneath it in order to align the branch pipe fitting. Additionally, the truck does not rotate about a pivot point as the main pipe is elevated.

For at least this reason Applicants submit that the rejection of claim 15 should be withdrawn.

Accordingly, for at least the foregoing reasons, Applicants submit that claim 15 is patentable over the cited references. For reasons analogous to those discussed above, Applicants submit that claim 1, and its dependent claims 2-6, are patentable over the cited references. In addition, Applicants submit that many of the dependent claims 2-6 are separately patentable since the cited references fail to teach recitations present in those claims.

Additionally, independent claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over Ellinthorpe in view of Cooper.

Claim 8 relates to a chock assembly for transporting a rocket engine on a transport having a longitudinal axis. Claim 8 recites:

a trolley portion configured to interact with the transport for the rocket engine;
a chock having a curved portion configured to receive the rocket engine; and
a hinge portion configured to pivotably couple the chock to the trolley
portion such that the chock is free to rotate about an axis that is:
substantially on a mid-plane of the trolley portion, the mid-plane
being substantially perpendicular to the longitudinal axis, and
substantially perpendicular to the longitudinal axis of the rocket
engine as one end of the rocket engine is elevated to a position
that is substantially perpendicular to the longitudinal axis.
(Emphasis added.)

Applicants submit that the cited references fail to teach or suggest a chock which is “free to rotate about an axis that is: substantially on a mid-plane of the trolley portion, the mid-plane being substantially perpendicular to the longitudinal axis, and substantially perpendicular to the longitudinal axis of the rocket engine as one end of the rocket engine is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 8. As discussed above regarding claim 15, and as shown in FIGS. 2A-B of the Ellinthorpe reference, Ellinthorpe does not teach or suggest each of the limitations of claim 8 because the bridge assembly 40 of Ellinthorpe does not include “a chock assembly comprising a chock and a

trolley, wherein the chock is configured to accept an object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 8. Similarly, as discussed regarding claim 15, and as shown in FIG. 2 of the Cooper reference, the pipe fitting locator of Cooper is not configured to “receive the object and to pivot about a pivot point on the trolley about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis,” as recited in claim 8.

For at least this reason Applicants submit that the rejection of claim 8 should be withdrawn.

Claims 9-12 depend from independent claim 8. Accordingly, for at least the reasons discussed above with regard to claim 8, claims 9-12 patentable over Ellinthorpe in view of Cooper. In addition, Applicants submit that many of the dependent claims 9-12 are separately patentable since the cited references fail to teach recitations present in those claims.

Claim 7 relates to a rocket engine transport. Claim 7 recites:

a trailer having a track running parallel to a longitudinal axis of the trailer;
a tail support member coupled to the trailer and having **a notch configured to rotatably receive a pin affixed near a first end of a rocket engine**; and
a chock assembly comprising a chock, a trolley, a pair of bearing assemblies rotatably coupling the chock to the trolley, and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein **the chock is configured to accept the rocket engine and to pivot on the trunnion about a rotation axis that is substantially perpendicular to the longitudinal axis** as a second end of the rocket engine is elevated to a position that is substantially perpendicular to the longitudinal axis. (Emphasis added.)

Claim 16 relates to an object transport. Claim 16 recites:

a trailer having a track running parallel to a longitudinal axis of the trailer;
a tail support member coupled to the trailer and having **a notch configured to rotatably receive a pin affixed near a first end of an object**; and
a chock assembly comprising a chock, a trolley, a pair of bearing assemblies rotatably coupling the chock to the trolley, and a pair of cradle assemblies, each cradle assembly comprising a support bracket coupled to the chock and having a trunnion configured to interact with the bearing assembly, wherein **the chock is configured to accept the object and to**

and to pivot about a rotation axis that is substantially perpendicular to the longitudinal axis as a second end of the object is elevated to a position that is substantially perpendicular to the longitudinal axis.
(Emphasis added.)

For reasons analogous to those discussed above with respect to claim 15, Applicants submit that claims 7 and 16 are also patentable over the cited references.

In conclusion, for the reasons given above, all claims now presently in the application are believed allowable and such allowance is respectfully requested. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the undersigned attorney at (480) 385-5060.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

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